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APRIL, 1900.

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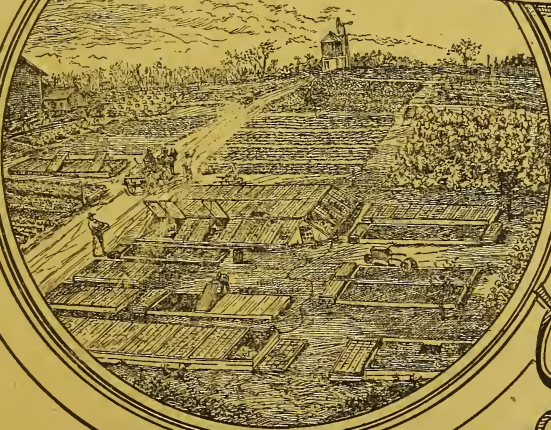


of Agriculture

Catalogue OF SEEDS

FOR THE GREENHOUSE,
GARDEN AND FARM,
AND ESPECIALLY FOR
BEE-KEEPERS.

REV. A. W. MURRAY, CLEVELAND, O.



The
A. I. ROOT
COMPANY.

Medina, Ohio.

Established 1886.

Revised Price List of Garden Seeds for April 1, 1900.

TAKE NOTICE. At the following *exceedingly* low prices we can not stand postage when seeds are wanted by mail; therefore add to prices below: 9 cts. per lb.; 5 cts. per $\frac{1}{2}$ lb.; 1 cent for a single ounce. Peas and beans must have 8 cts. per pint or 15 cts. per quart extra for postage; corn, 12 cts. per quart for postage.

ASPARAGUS.

- ✓ **Asparagus, Palmetto.** Oz. 5c; lb. 40c.
Asparagus Roots. 2 year old, Palmetto, 10 for 10c; 75c per 100; \$6.00 per 1000; 2-year-old roots not mailable; 1-year roots, 10, 10c; 100, 50c; 1000, \$4. By mail, add 5c for 10; 25c for 100.

BUSH BEANS.

- Burpee's Bush Lima.** Pt. 15c; qt. 30c; $\frac{1}{2}$ pk. \$1.10; pk. \$1.75; bushel, \$6.50.
Wood's Improved Bush Lima. Pt. 20c; qt. 35c; pk. \$2.50.
Davis Wax Bean. Pt., 15c; qt. 25c; 4 qts., 90c; pk. \$1.75; bushel, \$6.00.
White Kidney, Large. Pt. 8c; qt. 15c; pk. 65c; bush., \$2.25.
York State Marrow. The standard field bean. Qt. 10c; pk. 65c; bushel, \$2.25.
Navy. Qt. 10c; pk. 65c; bushel, \$2.25.

POLE BEANS.

- Extra-Early Lima Beans.** $\frac{1}{2}$ pt. 8c; qt. 25c; pk. \$1.50.
King of the Garden Lima. $\frac{1}{2}$ pt. 8c; qt. 25c; pk. \$1.50.

All of our beans will be furnished in 5-cent packages; but where they are to go by mail, postpaid, of course the above packages will have to be quite small. If wanted by mail, add 8c per pt. or 15c per qt. for postage.

BEEETS.

- Eclipse.** Oz. 5c; lb. 25c; 5 lbs. \$1.00.
Long Red Mangel. Oz. 5c; lb. 20c; 5 lbs. 90c; 10 lbs. \$1.60; 20 lbs. or more, 15c per lb.
Golden Tankard Mangel. Oz. 5c; lb. 20c; 5 lbs. 90c; 10 lbs. \$1.60; 20 lbs. or over, 15c per lb.

STANDARD SUGAR BEETS.

- Lane's Imperial Sugar.** Oz. 5c; lb. 15c; 5 lbs. 60c; 10 lbs. or more, 10c per lb.
French White Sugar Red-top. Same price as Lane.

CABBAGE.

- Select, Very Early Jersey Wakefield.** Oz. 20c; lb. \$2.50.
Henderson's Early Summer. Oz. 10c; lb. \$1.00.
Fottler's Brunswick. Oz. 10c; lb. \$1.00.
Burpee's Sure-head. Oz. 10c; lb. \$1.10.
Excelsior Flat Dutch. Oz. 10c; lb. \$1.00.
Perfection Drumhead Savoy. Oz. 10c; lb. \$1.25.
Large Red Drumhead. Oz. 10c; lb. \$1.25.

CARROTS.

- Early French Forcing.** Oz. 5c; lb. 40c.
Orange Danvers, Half Long. Oz. 5c; lb. 35c; 5 lbs. \$1.50.

CAULIFLOWER.

- Henderson's Early Snowball.** $\frac{1}{2}$ oz. 25c; $\frac{1}{4}$ oz. 40c; oz. \$1.50.

CELERY.

- Henderson's White Plume.** Oz. 10c; lb. \$1.50.
Golden Self-blanching Celery. Oz. 15c; lb. \$1.75.
New Rose. Oz. 10c; lb. \$1.00.
Giant Paschal. Oz. 10c; lb. \$1.00.
Dwarf Golden Heart. Oz. 10c; lb. \$1.00.

CORN (for table use).

- Corn we sell at 5c per half-pint package; but at this price purchasers must pay postage, which is 3c for each half-pint. If wanted in larger quantities the price (where no price is given) will be, pt. 7c; qt. 12c; pk. 75c; bu. \$2.75.*
Kendel's Early Giant Sweet Corn. $\frac{1}{2}$ pt. 5c; qt. 15c; peck 90c; bu. \$3.00.
Ford's Early Sweet.
Stowell's Evergreen. Pt. 5c; qt. 8c; pk. 50c; bu. \$1.75.
Late Flammoth Sugar.
Country Gentleman, or Improved Shoepeg.
Sweet Corn for fodder. Pk. 40c; bu. \$1.50.

CORN SALAD.

- Oz. 5c; lb. 40c.

CRESS.

- Extra Curled, or Pepper Grass.** Oz. 5c; lb. 40c.
Water Cress, true. Oz. 25; lb. \$2.50.

CUCUMBER.

- Improved Early White Spine, or Arlington.** Oz. 5c; lb. 35c.

- Early Frame.** Oz. 5c; lb. 35c.

- Green Prolific, or Boston Pickle.** Oz. 5c; lb. 35c.

LETTUCE.

- Grand Rapids Lettuce.** Oz. 5c; lb. 50c; 5 lbs. \$2.00.
Boston Market (or White-seeded Tennis-ball). Oz. 5c; lb. 50c.
Henderson's New York. Oz. 5c; lb. 50c.

MELONS, MUSK.

- Casaba, or Persian Muskmelon.** Oz. 5c; lb. 35c.
Banana. Oz. 5c; lb. 35c.
Extra Early Citron. Oz. 5c; lb. 35c.
Emerald Gem. Oz. 5c; lb. 35c.
Miller's Cream, or Osage. Oz. 5c; lb. 35c.

MELONS, WATER.

- Phinney's Early.** Oz. 5c; lb. 30c.
Landreth's Boss. Oz. 5c; lb. 30c.
Sweetheart. Oz. 5c; lb. 25c.

ONIONS.

A leaflet on "Growing Onions to Bunch up" will be mailed on application.

- Yellow Globe Danvers.** Oz. 8c; lb. 75c; 5 lbs. \$3.25.
Large Red Wethersfield. Oz. 8c; lb. 75c; 5 lbs. \$3.25.
Prizetaker. Oz. 20c; lb. \$1.75.
White Victoria. Oz. 20c; lb. \$2.50.
American (Extra Early) Pearl. Oz. 25c; $\frac{1}{2}$ lb. \$1.75; lb. \$3.25.
Extra Early Red. Oz. 8c; $\frac{1}{4}$ lb. 30c; lb. \$1.00.
Bermuda (true Teneriffe). Oz. 25c; lb. \$3.00.

ONION-SETS.

By mail, 10 cents per quart extra.

- Yellow Onion-sets.** Qt. 20c; pk. \$1.00; bu. \$3.50.
White Onion-sets. Qt. 20c; pk. \$1.00; bu. \$3.50.
White Multiplier. Same price as above.

PARSNIP.

- Improved Guernsey.** Oz. 5c; lb. 20c; 10 lbs. \$1.50.

PARSLEY.

- Fine Curled or Double.** Oz. 5c; lb. 35c.

PEAS.

- Alaska.** $\frac{1}{2}$ pt. 5c; qt. 15c; pk. \$1.00; bu. \$3.50.
American Wonder. Qt. 20c; pk. \$1.25; bu. \$4.50.
Premium Gem. $\frac{1}{2}$ pt. 5c; pk. \$1.00; bu. \$3.50.
Stratagem. $\frac{1}{2}$ pt. 8c; qt. 20c; pk. \$1.25; bu. \$4.50.
Champion of England. Pt. 10c; qt. 15c; pk. 75c; bu. \$2.50.
Canadian Field. Pk. 40c; bu. \$1.50.

Peas by mail will be at same rate as beans for postage.

PEPPERS.

- Sweet Spanish.** $\frac{1}{4}$ oz. 8c; oz. 20c.
Bullnose. $\frac{1}{4}$ oz. 5c; oz. 12c.
Cayenne. $\frac{1}{4}$ oz. 8c; oz. 15c.

PUMPKIN

- Early Sugar.** Oz. 5c; lb. 30c.
Field Pumpkin. Oz. 5c; lb. 15c.

RHUBARB.

- Myatt's Victoria.** Oz. 5c; lb. 75c.
 Roots, 10c each; 50c for 10; \$3.50 per 100. *Small roots postpaid by mail at above prices.*

RADISHES.

- Early Scarlet Globe.** Pkt. 5c; oz. 5c; lb. 40c.
Wood's Early Frame. Oz. 5c; lb. 35c.
Beckert's Chartier. Oz. 5c; lb. 30c.
Chinese Rose Winter. Oz. 5c; lb. 35c.

SALSIFY, OR OYSTER PLANT.

- New Flammoth.** Oz. 10c; lb. \$1.00.

SPINACH.

- Bloodsdales Extra Curled.** Oz. 5c; lb. 20c; 5 lbs. 75c; 10 lbs. \$1.25.

SQUASH.

- Giant Summer Crookneck.** Oz. 5c; lb. 40c.
Hubbard. Oz. 5c; lb. 50c; 5 lbs. \$2.25; 10 lbs. \$4.00.

TOMATO.

Golden Queen. Pkt. 5c; oz. 15c; lb. \$2.00.
 Ignotum Tomato. ½ oz. 8c; oz. 15c; lb. \$1.50.
 Livingston's Beauty. Oz. 12c; lb. \$1.75.
 Earliest-in-the-world Tomato. ½ oz. 10c; ¼ oz. 15c;
 ¼ oz. 25c; oz. 50c.
 Fordhook First. Oz. 35c; lb. \$1.50.
 Dwarf Champion. Oz. 12c; lb. \$1.75.
 Buckeye State. Oz. 10c; lb. \$1.25.
 Livingston's New Stone Tomato. Oz. 10c; lb. \$1.25.
 Trophy Tomato. Oz. 10c; lb. 75c.
 Pear-shaped Tomatoes. Oz. 20c; lb. \$2.50.

TURNIP.

Yellow Aberdeen. Oz. 5c; lb. 25c.
 White Egg. Oz. 5c; lb. 30c.
 Breadstone. Oz. 5c; lb. 30c.
 Purple-top White-globe. Oz. 5c; lb. 30c; 5 lbs. \$1.25.

New Vegetables Tested During 1898 and 1899
and Found Worthy of Mention.

Among vegetables we were particularly pleased with
Paul Rose Muskmelon. We raised samples superior
 I think to any other melon I ever tasted. Packet,
 5c; ounce, 8c; 1 lb., 60c. Last, but not least,
Fancy Fordhook Tomato. See description and cut
 on p. 412, 1898. Pkt. 5c; ¼ oz. 10c; oz. 35c.
Rocky Ford Canteloupe Muskmelon. The same that
 so many people enjoyed at the Omaha exposition.
 Pkt. 5c; oz. 10c; 1 lb. 85c.
Giant Gibraltar Onion.

Price of seed, 20c per ounce; \$2.50 per lb.

Red Kidney Beans.

A short time ago we received from Eugene Davis
 (the originator of the Grand Rapids lettuce) several
 bushels of the red kidney beans, by mistake. This is
 a green snap bean, and it is also one of the best if not
 the very best table bean, according to my notion.
 Price, 1 pt., 10c; quart, 15c; peck, \$1.00.

Seed Potatoes.

NAME.	1 lb. by mail.	3 lbs. by mail.	½ peck.	Peck.	½ bushel.	Bushel.	Barrel—11 pk.
Varieties are in order as regards time of maturing; earliest first, next earliest second, and so on.							
Red Bliss Triumph.....	25	50	30	50	85	1 50	3 50
Bovee.....	25	50	30	50	85	1 50	3 50
Lee's Favorite.....	18	40	20	35	60	1 00	2 50
E. Thorb'red, Maule's.....	18	40	20	35	60	1 00	2 50
Early Ohio.....	25	50	30	50	85	1 50	3 50
Burpee's Extra Early.....	25	50					
Freeman.....	18	40	25	40	75	1 25	3 00
New Queen.....	18	40	20	35	60	1 00	2 50
Maule's Commercial.....	25	50	30	50	85	1 50	3 50
Mill's Prize.....	15	35	20	25	40	75	2 00
Carman No. 1.....	18	40	20	35	60	1 00	2 50
Carman No. 3.....	18	40	20	35	60	1 00	2 50
Sir Walter Raleigh.....	18	40	20	35	60	1 00	2 50
New Russet.....	18	40	20	35	60	1 00	2 50
Manum's Enormous.....	18	40	25	40	75	1 25	3 00
New Craig.....	18	40	25	40	75	1 25	3 00

Seconds of any of the above will be half price.

We have sold out on seconds of all except the following kinds of potatoes: Mill's Prize, Carman No. 1, Sir Walter Raleigh, and Manum's Enormous.

Please notice there are no seconds at half price in potatoes postpaid by mail. The principal part of the price of potatoes by mail is for postage stamps; and Uncle Samuel does not have any second quality of postage stamps that he sells at half price. Another thing, when you go to the expense of paying postage on potatoes, you will naturally be supposed to want the very best and nicest that can be picked out.

In addition to the potatoes mentioned in the above table, we have 100 bushels of seconds of the Monroe Seedling. This is a well-known standard potato, and ours were grown on sandy soil in Summit Co., where they rarely ever have any scab. They are an extra-fine lot of seconds, and we offer them for only \$1.25 a barrel. Where potatoes are scarce and high they are worth more than this for table use.

Seed Potatoes as Premiums.

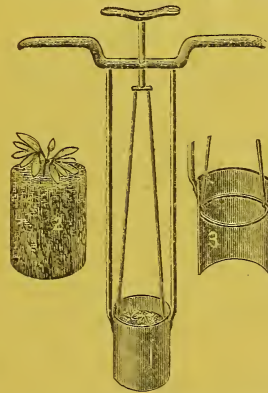
Any one sending \$1.00 for GLEANINGS, and asking for no other premium, may have 25 cents' worth of potatoes. And any one who is a subscriber, and who sends us \$1.00 and one new name, may have 50 cents' worth of potatoes; but if the potatoes are wanted by mail the subscriber must pay postage. Please notice we give potatoes as premiums, but we can not afford to give postage-stamps.

Jadoo Fiber; the new potting soil.

This fiber comes from the manufactory in sacks holding about 125 lbs. each, and the price is 2 cts. per lb. In smaller lots than a 125-lb. bag, the price is considerably more; and the manufacturers object to our selling it to our friends at less than advertised prices. We are at liberty, however, to do this: To every one who sends us \$1.00 for GLEANINGS we will send him 20 lbs. (\$1.00 worth at price charged for small quantities) of jadoo free of charge. This amount is heavy enough to make a freight shipment; and if it can be sent with other goods, that will make the expense still less. You will readily see that no one can afford to pay postage or express charges on an article that costs only 2 cts. per lb. Of course, we send a small sample by mail free of charge, but this is intended only for a test. If you have already paid for GLEANINGS, pay in advance for another year, get a subscriber somewhere, or make a present of a year's subscription. This will be really your cheapest way to get the jadoo, for the manufacturers charge \$1.10 for a 25-lb. box of the material. If you do not think you want 20 lbs., get your neighbors to club together with you. I think you can use 20 lbs. very quickly; and after you have tried it a little, I am sure you and your neighbors together can use a sack.

A special rate to florists on application. For greenhouse work we rub the material through a coarse sieve. This sifting process works better when the jadoo is pretty dry; then with the same sieve mix it thoroughly with more or less sand or rich garden soil as you choose. A descriptive circular free on application.

A New Transplanting-Machine.



The cut will make the machine plain, without any particular explanation. You hold the machine in both hands, and with an auger-like motion back and forth you set the steel tube, No. 1, over the plant. It is pressed down till it will bring up the plant, roots, and all, in a lump of dirt like No. 2. It is not advisable to push it any further down than is necessary to get all the roots. In fact, if the tap-root is broken off, with most plants they will do just as well.

After the plant is out of the ground in its ball of earth, you place your two thumbs on the lever at the top of the machine, and push down, releasing the ball of dirt. With strawberries you can load these balls into a wheelbarrow, or with appropriate trays you can load them into a wagon. Fit your ground nicely, as described in our book on strawberry culture. Mark it out according to your notion, then with the transplanting-machine make holes to drop your "potted plants" into, for they really are potted plants, to all intents and purposes.

Permit me to say that I have used very faithfully all the strawberry planting implements made on this plan, and I would put this machine far ahead of any of them in point of speed of working, and for effectiveness. Where you are going to put out a considerable area, say a quarter of an acre or more, especially if two hands are at work, two machines are very handy. Price of the machine, \$1.25; two machines, \$2.25.

The Lenox Atomizer.

A very handy implement for various uses. For sprinkling clothes, or watering plants in the window, you use pure water. For applying poisons, you use any of the solutions of London purple, Paris green, hellebore, pyrethrum, according to the insects to be banished. For convenience you want an extra rubber ball for the poisons. It uses the liquids with such economy that a pint bowl of solution may be made to go over a very large surface. It is recommended for bugs and insects on carpets, furs, or clothes. For this purpose a carbolic-acid solution is used. Price 30 cts. each; postage 10 cts. Extra rubber balls, 10 cts.

Putty-bulb and Insect-powder Gun.

For setting glass for greenhouses, for repairing sash, etc. This is a rubber bulb, with nozzle, for running liquid putty along where the glass lies in the sash. No person who has half a dozen sash should be without one. Full instructions for preparing the putty, with each. With a little different arrangement the above makes the nicest kind of powder-gun for using a small quantity of pyrethrum, or insect powder. In ordering, please state which purpose you wish it for. Price 20c; post. 5c.

Honey Plants.

I have for years had dreams of a honey-farm, with acres of flowers of different colors, blooming at different seasons, and keeping the bees away from the stores and groceries when we have a dry spell in the fall. The dream has been partially realized with the Simpson honey-plant, Molly O. Large's spider plant, and the seven-top turnip, but I am pretty well satisfied it will not pay to cultivate these for honey alone. Mignonnette, catnip, motherwort, borage, melilot, and some others I have tested, but I am quite sure that none of them have ever paid, just for the honey.

We first give a list of the plants that not only yield honey, but are profitable crops for their other products. If the bee-keeper can not raise these himself, he can often induce farmers round about him to do the same by furnishing the seed free, or (where it is expensive) part of the price of the seed. As an illustration: We have for years been in the habit of furnishing buckwheat seed free of charge to any one who will sow it within a mile and a half of our apiary. Alsike, white Dutch clover, and Mammoth (or Peavine) and crimson clover, we furnish at half the usual price. Now, then, friends, which is the most important honey-bearing plant, generally speaking, in the world? I am inclined to think that basswood (or linden) bears the *largest quantity* of honey, although it is not generally considered quite equal to clover in flavor; for in the honey-markets it usually sells for one cent per pound less than clover. We, however, put basswood first and clover second.

Basswood-trees.	Per 10	Per 100
One foot and under, each, -	.05	.30 \$ 2 00
The above by mail, " -	.08	.35 2 25
One to five feet, " -	.10	.75 5 00

These will be taken directly from our nursery, and if planted any time after the leaves have fallen, until the ground freezes, not one in one hundred should fail to grow. They can also be sent during the months of March, April, and May, and spring planting is possible. For a description of the basswood, with engraving, see A. B. C. Basswoods may be planted along the roadsides so as to answer for shade-trees, and at the same time furnish honey. The bee-keeper can also usually arrange so as to get them planted for shade along the streets of towns and cities. We can furnish the basswood-seeds if desired, but as they require special treatment I think our friends will be much better satisfied to buy little trees.

SEEDS OF HONEY PLANTS.

The prices given below are only for prompt orders, for the market fluctuates so, on clover seeds especially, that we can not promise these prices to continue.

Basswood-seed. Oz. 5c; lb. 50c; by mail, 60c.

Alsike Clover. One ounce, by mail, 5 cts.; 1 lb., by mail, postpaid, 30 cts.; by express or freight, 1 lb., 20 cts.; one peck, \$2.25; $\frac{1}{2}$ bushel, \$4.25; bushel, \$8.00.

This furnishes not only the best honey of any plant in the world, letting the majority judge, but the quality of the plant for feed for cattle, whether hay or pasture, is probably better for milk-producing than any other forage-plant. It can be sown almost any time, but perhaps gives best results for seed, when sown in March or April. About 6 to 8 lbs. are required per acre, and it does not blossom much until the second year. Its treatment and cultivation are much the same as for common red clover, but the seed is saved from the first crop. We know our seed to be fresh, and free from dangerous seeds.

Medium Clover. Bushel, \$5.50; $\frac{1}{2}$ bush., \$3.00; peck, \$1.75; lb. 10c; by mail 10c lb. extra.

White Dutch Clover. Bushel, \$7.00; $\frac{1}{2}$ bu., 3.75; pk. \$2.00; 1 lb., 15c; lb. by mail, 25c.

This differs but little from the ordinary white clover. It has an advantage over alsike, inasmuch as it will scatter itself without any cultivation, and it grows along the roadsides, pastures, and all waste places.

Peavine, or Mammoth Red Clover. Bushel, \$5.50; $\frac{1}{2}$ bu., \$3.00; pk., \$1.75; per lb., 10c; by mail, 10c per lb. extra.

This yields honey late in the season after all other clovers, and, in fact, after basswood; and in some localities it rarely fails to give more or less of a crop, especially where Italian bees are kept. In other localities there have been complaints made that the bees would not work on it.

Alfalfa, or Lucerne. Per bush., \$8.00; $\frac{1}{2}$ bush., \$4.25; peck, \$2.25; pound, 20 cts. By mail, 10 cts. per lb. extra.

This is the great honey-plant of Arizona, Idaho, California, and other Western States and Territories. Where it is raised by irrigation in fields of a thousand acres or more, there is an almost continuous honey-flow from spring until winter. In fact, it produces each season the most beautiful honey, not only by the ton, but by the carload. In Sept. 1892, we received from W. K. Ball, Reno, Nevada, a carload of the finest comb honey made from alfalfa, ever put on this or any other market. Little patches have, at least partially, succeeded in the Eastern States. In dry seasons it will succeed, without a doubt; but much rain is detrimental. On our grounds it stands winter without injury, and we have found the roots at a depth of several feet. We furnish purchasers a little circular in regard to its cultivation.

Crimson or Scarlet Clover. Two-bushel sack, \$8.75; per bushel, \$4.50; half-bushel, \$2.40; peck, \$1.25; pound, 15 cts. If wanted by mail, add 10 cts. per lb. extra for postage and packing. We will send 3 lbs. by mail, postpaid, for 50 cts. From 8 to 15 lbs. of seed are needed per acre.

It is a little singular that this plant, after having been in this list of seeds of honey-plants for upward of ten years, without eliciting very much attention, has, within a couple of years past, not only come up into great prominence as a honey-plant, but it even bids fair to take the lead among the clovers of any in common use, simply from the fact that, when sown in the fall early enough to get well rooted, and yet not so early as to send up blossoms, it will stand average winters without injury, even as far north as Northern Ohio. It is equal to any clover for hay, and comes some earlier in the spring than any other. It is as valuable as red clover to plow under, and yet it may be sown among growing corn at the last cultivating, and be ready to plow under a time to put another corn crop on the same ground the very next year. It is cheaper than manure, on most farms; for a heavy growth plowed under has been called equivalent to ten tons per acre of the best stable manure. It also promises to be a boon to bee-keepers.

Sweet Clover (*Melilotus alba*, or *Melilot*. Also called *Bokhara*). Per lb. by mail, 18c; 10 lbs. or more, 6c per lb.; 100 lbs., 5c per lb.

Sweet clover, hulls off, 3c per lb. additional. As there are a good many more seeds in a pound of this latter, it may be as cheap, even at this advance price.

This has some valuable traits, as standing frost and drouth, but sometimes the bees will hardly notice it. About four pounds of the hulled seed, or eight or ten lbs. with hulls on, are needed for an acre. It will grow on almost any barren hillside, but it is never a bad weed to exterminate. If it is mown down to prevent seeding, the roots will soon die out. Sown in spring or fall. In the vicinity of Salt Lake, Utah, sweet clover is the main honey-plant, and the quality of the honey is equal, in my opinion, to any honey in the world. The plant lives through the dry summers in Utah. See "leaf-let" about sweet clover, mailed free on application.

Buckwheat, Japanese. Trial packet, 4 ounces, by mail, postpaid, 5c; 1 lb. by mail, postpaid, 15c; peck, 35c; $\frac{1}{2}$ bush., 60c; bush., \$1.10; 2 bush., \$2.00. These prices include bag to ship it in. Ten or more bushels, purchaser paying for bags, 85c.

We should place buckwheat at the head of the list were it not for the fact that it often fails, almost, if not quite, to yield honey; and the quality of the honey is always second class and the color is dark. At the present time the Japanese is so full of crippled all of our varieties, that we have dropped them entirely from our list. It makes a much stronger growth than the old kinds, gives a much larger yield of grain, and also matures its seed a little earlier. During the past season the yield has been so great as to put buckwheat flour as well as grain at a lower price than it has been known before for years. We have an 8-page pamphlet, being a collection of articles from different localities, telling just how to raise buckwheat. Mailed for 5c, or given free to all purchasers of our seed. Please notice that buckwheat is not a poor plant, especially for sheep and cattle, by mail, freight, or express, without the expense of shipment being more than the value. If you want a peck, or half a bushel, it should be ordered by freight with other goods, unless you are willing to pay more than the seed is worth, in the way of charges.

Rape. 1 lb. by mail, 20c; by freight or express, 50 lbs. at 9c; 100 lbs. or over, 8c per lb.

The above rape is for blossoms and seed; although it is sometimes sown for forage it is by no means equal to the Dwarf Essex.

Where rape is used for making oil, it often yields a considerable quantity of honey. In most localities, however, it is liable to be destroyed by the black flea, if sown earlier than July. It is sown like turnips, and about 3 lbs. of seed is enough per acre. It may blossom in four weeks after being sown, and stay in blossom four weeks longer.

Dwarf Essex Rape. 1 lb., mail, postpaid, 20c; freight or express, 50 lbs., 9c per lb.; 100 lbs., 8c.

This plant has been rapidly coming to the front in the last few years as a forage plant, especially for sheep and lambs. It may be sown in May, June, July, or August; and at our Ohio Experiment Station it gave from 8 to 12 tons per acre in 90 days after planting. Like other new forage-plants, stock must be taught to eat it. It is a splendid thing to put on after early potatoes. After the first cutting or eating off it will start again; and it is so hardy that it will grow until the ground is frozen several times, giving feed even as late as the middle of December, in our locality. It possesses re-

markable fattening qualities. An acre of it will feed over 30 sheep for a month. Directions for raising will be mailed free on application. This rape is not a honey-plant, unless grown for seed. See "leaflet," mailed on application.

Cow Peas. The stock pea of the South. Postpaid by mail, 1 lb., 15c; pk., 60c; $\frac{1}{2}$ bu., \$1 00; bu., \$1.75. Much interest has been manifested in this stock pea of late, both for feed and plowing under. The bloom also furnishes considerable quantities of honey in localities where it is raised largely. Leaflet mailed on application.

Seven-top Turnip. Oz. 5c; lb. 20c; 10 lbs. \$1.50. If wanted by mail, 10c per lb. extra.

This plant, although not equal to the Spider plant and the Simpson honey-plant, is entitled to a place next to them, because it bears its crop of honey in the spring—green fruit blossoms and clover. It should be sown in Aug. and Sept. It bears no root like the ordinary turnip, but only foliage that is used for greens. Excellent for plowing under.

Sunflower, Mammoth Russian. Oz. 5c; lb. by mail, 15c; 10 lbs. or over, by freight or express, 5c per lb.; 100 lbs., 4c per lb.

This plant is visited by the bees in great numbers in some localities, while in others it is scarcely noticed; but, as the seeds usually pay all expenses of cultivation, it holds its place as a honey-plant. The mammoth Russian bears by far the largest blossoms, as well as the largest seeds.

Soja Bean. Price, qt., 10c; pk., 60c; bush., \$2.00. About 1 bushel (60 lbs.) is needed per acre. For description see leaflet, mailed on application.

American Coffee-berry. Package, 5c.

This is probably a variety of the soja beans. At first we were inclined to think from the appearance that it was the same, but on making it into coffee we had to admit that the coffee-berry is something different, and much more like genuine coffee. If I were going to use coffee at all I should prefer this to the real thing—principally, however, because it is nourishing instead of being stimulating. Besides, the coffee-berry matures very much earlier than the soja bean. In order that you may all try the coffee for yourselves we offer it at the following low prices: $\frac{1}{2}$ pint, 10c; pint, 15c; quart, 25c; peck, \$1.75. If wanted by mail, add 15c per quart extra for postage and packing.

The above are the only plants I know of that can be profitably grown by the bee-keeper; that is, the honey they yield would probably pay, in connection with the profit on the plant for other purposes.

Plants for Honey Only.

The following plants yield honey, and many of them in considerable quantities; but they are so little used for other purposes that there is little inducement to raise them by the acre; and let us bear in mind that it must take acres of any plant to yield honey enough to amount to any thing.

Borage. Oz. 10c; lb. \$1.40; if wanted by mail, add 10c per lb. extra.

A strong, hardy, rapidly growing plant, bearing a profusion of blue flowers. It may be sown at any time, but will, perhaps, succeed best, at about corn-planting time. As it grows tall, and branches out considerably, it should have plenty of room. I know that bees are very busy on it, all the day long, from July until Nov., but I do not know how much honey an acre of it would furnish. It is easily tried, because it grows so readily, and if sown on the ground after early potatoes are dug, you will get a nice crop of fall bloom. Sow broadcast, or in hills like corn. Borage is also used as a salad, or cooked as spinach.

Catnip. Oz. 10c; lb. \$1. If wanted by mail, add 10c per lb. extra.

This has been very much talked about, and we have record of some experiments with an acre or more; but, if I am correct, only a few have ever yet seen a barrel of catnip honey. Sow in the fall.

Dandelions. Package 5c; oz. 50c.

I presume everybody can get dandelion seeds and roots without buying them, but for all that, I have much faith in an acre of catnip and dandelions. From what I have heard, the superior for "greens," and by the way our bees take to our "patch" of it, I think it must be superior for honey.

Motherwort. Prices same as for catnip.

Figwort, or Simpson Honey-plant. Oz. 20c; lb. \$2. By mail, 10c per lb. extra, for postage.

This is a queer tall weed that grows in fields and woods and bears little cups full of honey. It bears honey all the day long from July to October. Very hardy, blooms first year, and after that shoots up from the root every year, but needs planting anew about every three years. The seed sometimes lies in the ground many months before germinating. If sprinkled on the top of damp leaf-mold, packed hard in a box, and rolled hard, being kept dark and damp in a warm place, they will sprout in a week or two, and give all the light and air possible, but not too much water.

Mignonette. Oz. 10c; lb. \$1; by mail, add 10c per lb.

This is a great favorite with the bees, and also with those who are raising plants for their bees; but, though we have sold considerable of the seed for bee pasturage, I am not sure that any one has ever made it pay in dollars and cents for the honey alone.

Mustard. Common (either white or black). Oz. 5c; lb. 25c. Add 10c per lb., if to be sent by mail. The honey from this is said to be very light, equal to any in flavor, and to command the highest price in the market.

Spider Plant. (*Cleome pungens*). Package 5c; oz. 20c; lb. \$2. Postage 10c per lb. extra.

This plant, under favorable circumstances, yields more honey than any thing that ever before came under my observation. In Oct. 1879, each flower yielded drops so large that a bee had to make two or more journeys to get it all, and I succeeded in dipping the honey from the plant with a spoon, until I half filled a bottle with it, for experiment. As it yields only this honey early in the morning, and late in the evening, it will go nicely with the Simpson honey-plant. I should think it quite probable that 5 acres of each of these plants would keep 100 colonies busy enough to be out of mischief during a dry fall, when bees are so apt to be robbing. For particulars concerning both plants, see A B C of Bee Culture. The Spider plant is an annual, and should be sown every year. It grows almost too fast with nothed treatment, but will blossom in August if sown in the open ground in May.

Portulaca. 5c per package.

Best mixed. A bed of portulaca, say a rod square, will show more bees in the working season for the area, than any other plant I know of; furthermore, a bed of mixed portulacas, equivalent to a square rod, makes one of the handsomest, if not the handsomest of sights, when in full bloom, the whole floral kingdom affords. It does not seem to me that any bee could be without a bed, and I might also say, no lover of flowers can well afford to forego the gorgeous spectacle of a bed of mixed portulacas, especially when the seed is only 5 cents a paper. One paper will cover a square rod of ground nicely. You can have the square rod laid out in artistic beds and walks, if you choose.

Rocky Mountain Bee-plant (*Cleome integrifolia*). Oz. 15c; lb. \$1.25, postage 10c extra.

This is closely connected with the noted Spider plant (*C. pungens*), these two being the only species of the *Cleome*. With us, it is much inferior to the Spider plant as a honey-producer. We have reports from some localities of its yielding large quantities of honey, hence quite a demand for the seed is the result.

Sage, White (*Salvia argentea*). Oz. 35c; lb. \$4.

Is called the honey-plant of California, and belongs to the Labiate or Mint family, the same as Rosemary, Balm, Hoarhound, etc.

Corulea, Bee Clover. Oz. 10c; lb. 75c; by mail, add 10c for bag and postage.

This latter clover is in about six weeks after sowing, and bears a small blue flower.

Chapman Honey-plant. Packet 5c; oz. 20c.

The large globular blossoms exude pure honey, and if enclosed in a paper bag so the bees are kept away the blossoms will become quite sticky with the honey.

Any of the above seeds will be sent in 5c packages, to those who would like just a few to try.

Sweet Peas. While these may not be a honey-plant, bees sometimes seek on them quite as freely as on the clover. A prettier sight near your mignonette-bed than a collection of sweet peas on a trellis of poultry-netting, with the bees busy on the blossoms.

We can furnish a choice mixture of the best kinds at 5c per ounce: 15c per $\frac{1}{4}$ lb.; 50c per lb. If ordered by mail, add 9c per lb. for postage.

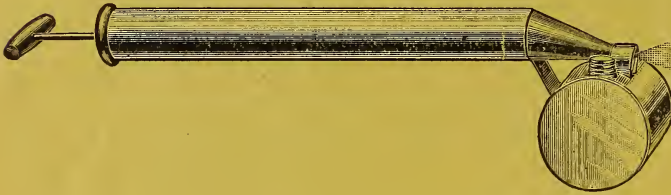
Thermometers and Barometers for Greenhouse Men, Gardeners, Farmers, Dairymen, Poultry-keepers, etc.

We can furnish a very pretty and accurate thermometer for all general purposes, plain scale, easy to read, for only 15 cts.; by mail, 20 cts. A very reliable dairy thermometer, all glass, so that it can be immersed in any liquid without rusting. Price 15 cts.; by mail, 20 cts. Also a very substantial incubator thermometer. This has a scale that runs only from 75 to 115. In this way we get a long scale with the marks so far apart it is an easy matter to get down to a very accurate temperature; or in other words you can get the temperature to a very exact point if you wish. These are made specially for poultry-men, are very accurate and easy to read. If I am correct, it is about the best thing for the purpose. Price 40 cts.; by mail, 50 cts.

Barometers for Foretelling the Weather.

I have said several times before that our barometer frequently saves the expense of it in a single day. In fact, I consult it almost as often as I do my watch, and plan my work accordingly, and very seldom make a mistake. It is especially valuable to the gardener in warning him against heavy blows of wind. When he goes to bed at night, if there is likely to be a blow before morning it may save him a good many dollars by having his sashes, greenhouses, and other fixtures prepared accordingly. We can furnish a very pretty small-sized aneroid barometer for \$2.50; by mail, 15 cts. extra.

THE FAULTLESS SPRAYER.



Few little inventions make the stir and do the amount of good that the little tin spray-pumps did that were introduced in 1898. Although we have a machine for spraying potatoes, that cost \$25.00, we let it stand in the tool-house, and sprayed a great many acres of potatoes with a little spray-pump similar to the one pictured here. It did the work easier and cheaper and better. A boy with some packages of Paris green (a large spoonful in each paper) in his pocket, and in his hand a spray-pump weighing only about a pound, will do the whole job in a very little time; in fact, one boy takes his hoe along and does the hoeing and spraying both, without any machine to lug back and forth, nor any chance of said machine getting out of order. As soon as we began to offer them for sale others seemed to discover their advantages; and although we ordered pumps from the factory at several different times, we were sold out in spite of us when we wanted them most. We sold over 1700 during 1899.

We now have a tremendously big stock of the latest improved ones, and the price is even lower. These pumps are so perfect that the spray looks like steam out of the nose of a teakettle; in fact, you can fill the air in a room with vapor with one of these machines. The price of the new improved machines with galvanized iron tank is only 60 cts. You can have the same thing made all of brass for only 25 cents more. Either kind can be mailed for 25 cts. additional. Now do not say you can not afford a sprayer to keep the potato-bugs out of sight, for the great advantage of this little apparatus is that it is so little work to use it you can kill the bugs when they first start, and keep them down before your potatoes are injured at all. Thousands of people lost their potatoes last season just because it was too much work to fight the bugs.

With every machine is a stout linen tag, with full directions how to use the sprayer for all kinds of insects. Yes, this machine will answer for fruit-trees all right, but you would have to get up on a high stool, or climb a ladder, to get the spray all over a tree of any size. For spraying orchards a larger and more expensive machine is needed. For keeping flies off horses and cattle use pure kerosene in the above sprayer.

ANOTHER USE FOR THE FAULTLESS SPRAY-PUMPS.

The following was clipped from GLEANINGS:

On page 288 you ask for information regarding the use of kerosene spray on cattle, to keep off flies. Last year, seeing on sale at one of our stores the Acme atomizer, and thinking it would be handy for me to spray my hand-fertilized potatoes, I bought one and found it very convenient for that purpose. By keeping it loaded I could go over my few short rows every morning to make sure the bugs would not destroy the buds or blossoms before the seed-balls were set. Of course, for this I used Paris green. I also used the atomizer with clear kerosene oil for spraying cabbage, with good results. One day, noticing that the flies were tormenting my calves, I thought to try the

kerosene spray on them. I found it worked charmingly, as no flies would remain on the calves to annoy them, after which we sprayed them every morning.

The men, noticing the good effect of the spray on the calves, tried it on the cows just before milking, with equally good results. I found it would last all day on the calves if one-fourth sweet or lard oil was added to the kerosene. I am using the sprayer with clear kerosene on my orchard, to kill the oyster-shell bark-lice that are now hatching. This year I shall buy an atomizer for each kind of mixture, to avoid the trouble of so many changes. They are so cheap one can afford to have all he wants. A. E. MANUM.

Bristol, Vt., Apr. 5.

Insecticides.

Blue Vitriol and Paris Green.

Blue vitriol (sulphate of copper), 4 lbs., 25 cts.: 50 lbs., or more 6 cts. per lb.

Paris green is such unpleasant stuff to handle that we prefer to sell it only in original packages. These are put up securely, and may be shipped without injury, as follows: 4-oz packages, 7 cts. each; ½-lb. packages 12 cts. each; 1-lb. tin cans, 22 cts.; cans holding either 2 or 5 lbs., 20 cts. per lb.; 14 lbs. at 19 cts.; 25 lbs., 18½ cts.; 56 lbs., 17½ cts. and 100 lbs. at 17 cts. per lb.

Tobacco-Dust.

This is sprinkled over the foliage, and on the ground around lettuce in the greenhouse or on melon or other vines just as they are coming up, and is one of the best and cheapest insecticides known. One lb., by mail, 20c; 5 lbs., by express or freight, 3c per lb; 10 lbs., 2½c per lb; 25 lbs., 2c per lb.; 100 lbs., \$1.50.

Pyrethrum Roseum.

(*Persian Insect-Powder.*)

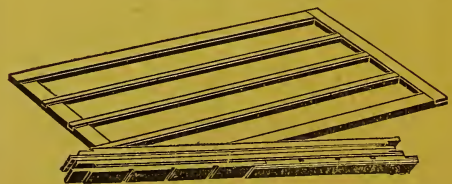
This is not only a pretty plant for the flower garden, but the flowers, gathered and dried when in full bloom, and then finely powdered, furnish us the Persian insect-powder, of which so much has been said. With us it has been the surest thing to kill all sorts of small insects (laying them out dead in even a few minutes), of any thing we have ever got hold of. It will also kill the green fly in greenhouses.

When used in the insect-powder bellows, described below, but very little of the powder is required.

With the powder-gun (see "putty-bulb" on page 3), you can kill every fly in any room of the house, within an hour. Of course, the doors and windows of the room should all be closed. In painting new houses in the summer time, when flies are troublesome, the instrument is worth more than it costs, for this alone. It is not at all poisonous or injurious to human beings.

Price of the powder, all ready for use, one ounce, 5 cts.; ¼ lb., 10 cts.; 1 lb., 35 cts.; 10 lbs., \$3.00. Price of the seeds, one packet, 5 cts.; one ounce, \$1.00.; 1 lb., \$10.00. By mail, 18c per lb. extra on powder, and 9c on the seeds.

Cold-Frame or Hot-Bed Sash.



The sash are of the regular size, 3 ft. 4 inches by 6 ft., for four rows of glass 8 inches wide. If any prefer larger glass we will furnish sash for 3 rows of 11-inch glass at the same price.

These sash are usually shipped from here knocked down at a low rate of freight, and they can be put together by anybody. If done securely they are just as strong as the regular sash. They are 1½ in. thick, outside bars about 3 inches wide, and inside ones about 1¼. The bars are grooved to slip the glass in place. If a light of glass is broken, move them up close and slide another in from the bottom end. If any prefer the bars rabbeted to set glass in putty, we will make them so on request.

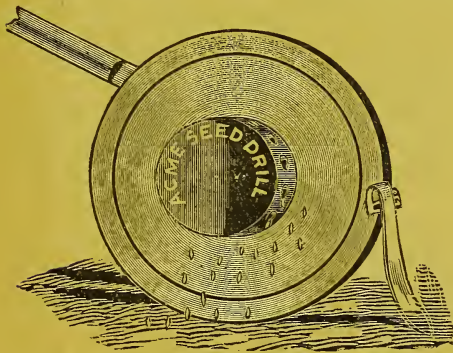
Price of one sash, in the flat, for sample, without glass, 85 cts.; 5 in the flat, 80 cts. each; 10 in the flat, 75 cts. each. Glass, 8x10, just right for the above, \$5.00 per box of 90 lights.

Sash put up, no glass or paint, 10 cts. each extra; 10 cts. each extra for each coat of paint, and \$1.00 each extra for glass set in place, making the sash put up, painted two coats, and filled with glass, at \$1.95 each in lots of 5. The risk and freight charges are so much more shipped put up with glass that we do not recommend you to order this way, and we can not well pack less than 5 safely.

We would not advise shipping a less number than five; but if you take our advice you will have all your glass sash shipped in the flat. In this case they go as fourth-class freight; whereas, all complete they will have to go as first-class, and some roads rate them as double first-class.

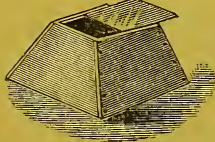
A Hand Seed Drill for only 50 cents.

Last year we introduced and sold a large number of these machines, and I never heard a complaint that I know of, although I was inclined to complain myself at some of them as they were sent out from the factory. This year, however, they have made a very much better machine, and by taking a very large lot, and



having them made up during the dull season, we have been enabled to furnish not only an improved machine, but at a lower price than we did last season. These drills are not only just what you want in making garden, but they are just the thing to put in the seeds quickly, and accurately spaced, in hot-beds, cold-frames, etc. If wanted by mail, add 20 cts. each for postage.

Boxes for Starting Squashes, Melons, Cucumbers, etc.



During my visit to Arlington, in July, 1886, I noticed that the squash-growers had a plan for getting Boston marrow squashes on the market very early. It is by means of the boxes shown in the adjoining cut. These, as you notice, are made so as to nest one in the other, occupying but little room when stored away, or drawn out on the wagon. An 8x10 glass slides in the top. These boxes can be used for putting over hills of early potatoes in March and April; and when the potatoes are out of danger the boxes will do good service in forwarding squashes, melons, and cucumbers. After all danger of frost is past, the glass may be drawn out, but the box is left on, as a protection against bugs. If the bugs are very bad, however, you will have to tack on cheese-cloth. The striped bug will *crawl through* mosquito bar. As the glass is to move loosely, it is not a very long job to slide them all back when the

weather is mild, and close them up again at night, when frost comes. If the earth is banked around the lower edges, it makes quite a miniature cold-frame. I was astonished while at Arlington to see squash vines fully a month ahead of the usual time; but I was told these boxes were the explanation of it. Don't fail to have a big lot of good manure under each box (see our little book, "Gregory on Squashes"). Prices of these little boxes without glass, in the flat, 15 cts. each; \$1.25 for 10, \$10.00 per 100. Glass to match, \$3.00 per box of 50 square feet. There are about 90 lights in a box.

GOODS ESPECIALLY FOR POULTRY RAISERS.

Pure Bone Meal.

Coarsely ground, expressly for poultry. Per lb., 5 cts.; 5 lbs., 3 cts. per lb.; 10 lbs., 2½ cts. per lb.; by the bag of 100 lbs., \$2.00; 200 lbs., \$3.75. Fowls will eat this almost as greedily as corn; and it not only furnishes material for egg-shell, but it gives them considerable animal matter besides. Excellent for laying hens. It is sure cure for thin-shell eggs.

Bone meal ground fine, for gardening purposes, same price as the above.

NEST-EGGS, polished wood, each 1c; doz., 10c; 100, 75c. Postage 1c each.

Books on Gardening, Farming, etc.

Figures on the left hand indicate amount of postage to be added when books are to be sent by mail.

I have indicated my opinion of the books by characters as follows: Books that I approve I have marked with a *; those I *especially* approve, **.

4 | A B C of Potato Culture, Terry*..... 35
This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.

| Potato Culture on Jersey Island, postpaid*....10
This is included in the A B C of Potato Culture as a supplement, but will be sold separate. It is emphatically "high-pressure" potato growing.

5 | A B C of Strawberry Culture, by T. B. Terry and A. I. Root, 144 pages; 32 illustrations** 35
Probably the leading book of the world on strawberries.

2 | Celery for Profit, by T. Greiner*..... 25
The first really full and complete book on celery culture, at a moderate price, that we have had. It is full of pictures, and the whole thing is made so plain that a schoolboy could be able to grow paying crops at once, without any assistance except from the book.

8 | Domestic Economy, by I. H. Mayer, M. D.* 30
This book ought to save at least the money it costs, each year, in every household. It was written by a doctor, and one who has made the matter of domestic economy a life-study. The regular price of the book is \$1.00; but by taking a large lot of them we are enabled to make the price only 30 cts.

10 | Farming for Boys*..... 1 15
This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

7 | Farm, Gardening, and Seed Growing*..... 90
This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-garden and seed-growers raise and harvest their own seeds. It has 166 pages.

12 | Gardening For Pleasure, Henderson*..... 1 35
While "Gardening for Profit" is written with a view of making gardening PAY, it touches a good deal on the pleasure part, and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. Both of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations. (Retail price \$2.00.)

10 | Gardening for Profit,** New Edition 1 35
This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts (Retail price \$2.00.)

5 | Garden and Farm Topics, Henderson*..... 60

5 | Gardening for Young and Old, Harris*..... 90
This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of the book. It has 187 pages and 46 engravings.

10 | Greenhouse Construction, by Prof. Tatft* 1 15
This book is of recent publication, and is as full and complete in regard to the BUILDING of all glass structures as is the next book in regard to their management. Any one who builds even a small structure for plant-growing under glass will save the value of the book by reading it carefully.

- 12 | Greenhouse Management, by Prof. Taft, of the Michigan Agricultural College**..... 1 15
This book is a companion to the Greenhouse Construction, by Taft. It is clear up to the times, contains 400 pages and a great lot of beautiful half-tone engravings. A large part of it is devoted to growing vegetables under glass, especially Grand Rapids lettuce, as well as fruits and flowers. The publishers' price is \$1.50; but as we bought quite a lot of them we can make a special price as above.

| Ginseng Culture, by Morris G. Cains..... 25
I do not know how much ginseng culture is going to amount to, but at the present time there is quite a little excitement about it, and a good deal of money invested in ginseng gardens. Several poorly gotten-up pamphlets have been put out at from 25 cents to \$1.00 each; but the O. Judd Co. have just put out during the year 1900 a very nice little book of 50 pages, well illustrated for the small sum of 35 cents; but by purchasing a quantity, however, we are able to make the price as above.

- 5 | Gregory on Cabbages; paper*..... 20
5 | Gregory on Squashes; paper*..... 20
5 | Gregory on Onions; paper*..... 20
The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

- 10 | Grape Culturist, Fuller's**..... 1 15
Handbook for Lumbermen..... 05
10 | Household Conveniences..... 1 40
2 | How to Propagate and Grow Fruit, Green*..... 15

5 | Home Pork-making; 125 pages, fully illustrated..... 40
I think it will pay well for everybody who keeps a pig to have this book. It tells all about the care of the pig, with lots of pictures describing cheap pens, appliances, all about butchering, the latest and most approved short cuts, all about making the pickle, barreling the meat, fixing a smoke-house (from the cheapest barrel up to the most approved arrangement); all about pig-troughs; how to keep them clean with little labor; recipes for cooking pork in every imaginable way, etc. Publisher's price is 50 cents; ours as above.

- 15 | How to Make the Garden Pay**..... 1 35
By T. Greiner. The one who is interested in hot-beds, cold frames, cold-greenhouses, hot-houses, or glass structures of any kind for the growth of plants, can not afford to be without the book.

- 2 | Injurious Insects, Cook..... 10
10 | Irrigation for the Farm, Garden, and Orchard, Stewart*..... 1 10

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present date. The book has 274 pages and 142 cuts.

- 5 | Manures; How to Make and How to Use them; in paper covers..... 30
6 | The same in cloth covers..... 65

Covering the whole matter, and discussing every thing to be found on the farm, refuse from factories, mineral fertilizers from mines, etc., is a complete summing-up of the whole matter. It is written by F. W. Semper.

- 3 | Maple Sugar and the Sugar-bush**..... 32
By Prof. A. J. Cook. This was written in the spring of 1887 at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's high style, contains very wholesome moral lessons with the latest and best method of managing to get the finest syrup and maple sugar, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 42 pages and 35 cuts.

- 3 | Onions for Profit**..... 40
Fully up to the times, and includes both the old onion culture and the new method. The book is fully illustrated, and written with the same enthusiasm and interest that characterize its author, T. Greiner. Even if one is not particularly interested in the business, almost any person who picks up Greiner's books will like to read them through.

- | Our Farming, by T. B. Terry**..... 1 50
In which he tells "how we have made a run-down farm bring both profit and pleasure."

This is a large book, 6x9 inches, 367 pages, quite fully illustrated. It is Terry's first large book; and while it touches on the topics treated in his smaller handbooks, it is sufficiently different so that no one will complain of repetition, even if he has read all of Terry's little books. I should call it the brightest and most practical book on farming before the world at the present day. The price is \$2.00 postpaid, or clubbed with GLEANINGS for \$2.50. Those who are already subscribers to GLEANINGS may have it postpaid by sending us 1.50 more. We are so sure it will be worth many times its cost that we are not afraid to offer to take it back if any one feels he has not got his money's worth after he has read it. If ordered by express or freight with other goods, 10c less.

- 4 | Peabody's Webster's Dictionary..... 10
Over 30,000 words and 250 illustrations.

- 1 | Poultry for Pleasure and Profit**..... 10
8 | Practical Floriculture, Henderson*..... 1 10
10 | Profits in Poultry*..... 75
2 | Practical Turkey-raising..... 10

By Fanny Field. This is a 25-cent book which we offer for 10 cts.; postage, 2 cts.

- 2 | Rats: How to Rid Farms and Buildings of them, as well as other Pests of like Character..... 15

This little book ought to be worth dollars instead of a few cents to anybody who has ever been troubled with these pests, and who has not! It is written in such a happy vein that every member of the family will read it clear through, just about as soon as they get hold of it. It contains a complete summing up of the best information the world can furnish.

- 2 | Sorghum, Stock Beets, Strawberries, and Cement Floors. By Waldo F. Brown..... 08

This little book ought to be worth its cost for what is said on each of the four different subjects; and the chapter on cement floors may be worth many dollars to anybody who has to use cement for floors, walks, or any thing else. In fact, if you follow the exceedingly plain directions you may save several dollars on one single job, and not only that, but get a better cement floor than the average mason will make.

- 2 | Sweet Potatoes: Forty Years' Experience with. By Waldo F. Brown**..... 08

This little book, by a veteran teacher at our farmers' institutes, ought to be worth many times the price to everybody who grows even a few sweet potatoes in the garden. It also gives full papers and hints in regard to handling and keeping this potato, which is difficult to keep unless you know just how.

- 1 | Silk and the Silkworm..... 40
10 | Small-Fruit Culturist, Fuller..... 1 10
11 | The New Egg-Farm**..... 70

This is an enlarged edition of the 50 cent book published 52 or 30 years ago by H. H. Stoddard. If I could have only one poultry-book it would be the New Egg-farm; and I hope no one will feel hurt if I suggest that, if I could have ALL the poultry-books, I would choose this one. I think even then I would choose the New Egg-farm. This book is of special value to me because it not only discusses most emphatically the value of EXERCISE to poultry, but it touches on the value of exercise to all other animated nature including humanity. The book has over 300 pages and 150 illustrations. It is entirely different from any other poultry-book in the world, inasmuch as it discusses mechanical contrivances so that all the varied operations of a poultry-farm may be done as much as possible with the aid of machinery. The regular price is \$1.00, but by buying in quantity we are able to furnish it at a large price.

No matter whether you raise eggs on a large scale or a small scale, you can not afford to miss reading friend Stoddard's book. I do not know that I ever got hold of any piece of fiction—not even Robinson Crusoe, that so thoroughly fascinated me as these chapters in regard to raising poultry on a large scale.

- 10 | Talks on Manures* (a \$2.00 book)..... 1 35
This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

- 7 | Ten Acres Enough..... 75
10 | The New Agriculture; or, the Waters Led Captive (a \$1.50 book)..... 40

- 2 | Treatise on the Horse and his Diseases..... 5
5 | Tile Drainage, by W. I. Chamberlain**..... 35
Fully illustrated, containing every thing of importance clear up to the present date.

The single chapter on digging ditches, with the illustrations given by Prof. Chamberlain, should alone make the book worth what it costs, to every one who has occasion to lay ten rods or more of tile. There is as much science in digging as in doing almost any thing else; and by following the plan directed in the book, one man will often do as much as two men without the knowledge. The book is so thoroughly connected with the subject, and was written by the author while he was engaged in the work of digging the ditches and laying the tiles HIMSELF, for he has laid literally miles of tile on his own farm in Hudson, O.

- 3 | Tomato Culture**..... 35

In three parts. Part first.—By J. W. Day, of Crystal Springs, Miss., treats of tomato culture in the South, with some remarks by A. I. Root, adapting it to the North. Part second.—By D. Cummins, of Conneaut, O., treats of tomato culture especially for canning-factories. Part third.—By A. I. Root, treats of plant-growing for market, and high-pressure gardening in general.

- 3 | Vegetables under Glass, by H. A. Dreer**..... 20
This is a new book by a veteran in the work, full of illustrations from real life, and by all odds, the most valuable book we have ever had for such a small price.

- 3 | Vegetables in the Open Air..... 20

This is a sort of companion book to the one above. Both books are fully illustrated, and are exceedingly valuable, especially at the low price at which they are sold. The author, H. A. Dreer, has a greenhouse of his own that covers one solid acre, and he is pretty well conversant with all the arrangements and plans for protecting stuff from the weather, and afterward handling to the best advantage when the weather will permit out of doors.

- 3 | Winter Care of Horses and Cattle..... 25

This is friend Terry's second book in regard to farm matters; but it is so intimately connected with his potato-book that it reads almost as if it were a sequel to it. If you have a horse or a cow, I think it will pay you to invest in the book. It has 44 pages and 4 cuts.

- 8 | What to Do, and How to be Happy While Doing It, by A. I. Root**..... 65

The above book is intended to solve the problem of finding occupation for those scattered all over our land, out of employment. The suggestions are principally about finding employment around your own home, or in the neighborhood upon market-gardening, fruit culture, poultry-raising, etc. I think it will be well worth the price, not only to those out of employment, but to any one who loves home and rural industries. Price in paper covers, 40 cts. Eight cents extra by mail.

THE A. I. ROOT CO., Medina, Ohio.